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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,302	04/25/2000	William J. Hillery	10970913-2	9699

7590 02/14/2002

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EXAMINER

BAYARD, EMMANUEL

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 02/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/558,302

Applicant(s)  
Hillery et al

Examiner  
Bayard, Emmanuel

Art Unit  
2631



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1) ☒ Responsive to communication(s) filed on Jan 22, 2002

2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

4) ☒ Claim(s) 17-21 is/are pending in the application.

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 17 and 18 is/are rejected.

7) ☒ Claim(s) 19-21 is/are objected to.

8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_

20) ☒ Other: PTO-948 attachment

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**DETAILED ACTION**

1. This is in response to CPA filed on 1/31/02 in which claims 17-21 are pending.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

3. Claims 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kim U.S. Patent No 5,940,451.

As per claim 17, Kim discloses a demodulator (see col.3, line 19) having a magnitude estimator which is functionally equivalent to the claimed ( power approximation circuit) (see fig.3 element 30 and col.3, lines 38-41 ) coupled to receive a real and an imaginary component of a complex signal (see fig.3 elements I, Q and col.5, l) the power approximation circuit generating an approximate power (col.3, lines 5-15) value which indicates an actual power value for the complex signal by a comparator which functionally equivalent to the claimed (combining) (see fig.3 element 34 and col.3, lines 43-45) absolute values of the real and imaginary components (see fig.3 elements 31-1, 31-2 and col.3, lines 45) an applying a signal magnitude calculator which is

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functionally equivalent to the claimed (expectation function) (see fig.3 element 36 and col.3, lines 58-65) to the combined absolute values.

As per claim 18, the system of Kim does include detection of at least one signal-to-noise ratio (see col.1, lines 31-32 ).

*Allowable Subject Matter*

4. Claims 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter: the present invention teaches a demodulator having a power approximation circuit. The closest prior art of Kim teaches a similar demodulator. However the closest prior art fails to anticipate or render obvious the recited features "an external processor which includes a look-up table that maps the approximate power value to an actual signal-to-noise ratio value". In combination with the rest of the system, these distinct features have been cited in dependent claims 19-21, and render them allowable.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Hendrickson U.S. Patent No 6,212,246 B1 teaches a symbol quality evaluation in a digital receiver.

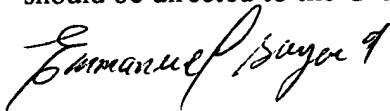
Kazecki et al U.S. Patent No 5,488,638 teaches a clock recovery method and apparatus.

Hiramatsu et al U.S. Patent No 6,208,701 B1 teaches a synchronizing apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is (703) 308-9573. The examiner can normally be reached on Monday-Thursday from 8:00 AM - 5:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.



Emmanuel Bayard

Patent Examiner

February 9, 2002